

CLAIMS:

1. A method to detect security tags, comprising:
 - establishing an interrogation zone using at least two signals operating at different
 - 5 frequencies;
 - monitoring said interrogation zone to detect a plurality of security tags, with each security tag responsive to at least one of said signals;
 - determining whether to generate an alarm if a security tag is detected; and
 - generating said alarm in accordance with said determination.
2. The method of claim 1, wherein said establishing comprises:
 - transmitting a first signal at a first frequency; and
 - transmitting a second signal at a second frequency.
3. The method of claim 1, wherein said first frequency operates at approximately 915 Megahertz, and said second frequency operates at approximately 111.5 Kilohertz.
4. The method of claim 2, wherein said monitoring comprises receiving a third signal at a third frequency from a first security tag in response to said first and second signals, wherein said third signal is a combination of said first and second signals.
5. The method of claim 4, wherein said determining comprises:
 - filtering out said first signal from said third signal;
 - determining whether said second signal remains after said filtering; and
 - sending an alarm signal if said second signal remains after said filtering.

6. The method of claim 5, wherein said generating comprises:
receiving said alarm signal; and
triggering said alarm in response to said alarm signal.
7. The method of claim 2, wherein said monitoring comprises receiving a fourth signal from a second security tag in response to said second signal, said fourth signal representing security tag information stored by said second security tag.
8. The method of claim 7, wherein said determining comprises:
decoding said security tag information from said fourth signal, said security tag information comprising an identifier for said second security tag;
comparing said identifier to a list of valid identifiers;
5 determining whether said identifier is valid based on said comparison; and
sending an alarm signal if said identifier is not valid.
9. The method of claim 8, wherein said generating comprises:
receiving said alarm signal; and
triggering said alarm in response to said alarm signal.
10. A method to detect security tags, comprising:
receiving a first and second signal having a first and second frequency, respectively,
at a first security tag;
receiving said second signal at a second security tag;

5 transmitting a third signal from said first security tag in response to said first and second signals; and
transmitting a fourth signal from said second security tag in response to said second signal, with said fourth signal representing an identifier for said second security tag and a first code.

11. The method of claim 10, further comprising:

receiving a fifth signal in response to said fourth signal, said fifth signal representing said identifier for said second security tag and a second code;

storing said second code at said security tag;

5 receiving said second signal at said second security tag; and

transmitting a sixth signal from said second security tag in response to said second signal, with said sixth signal representing said identifier for said second security tag and said second code.

12. The method of claim 10, wherein said first frequency operates at approximately 915 Megahertz, and said second frequency operates at approximately 111.5 Kilohertz.

13. The method of claim 10, wherein said third frequency comprises a combination of said first and second frequencies.

14. A security system, comprising:

at least one antenna;

a transceiver to connect to said antenna and establish an interrogation zone;

a first security tag to communicate with said transceiver;

- 5 a second security tag to communicate with said transceiver; and
a reader system to connect to said transceiver and to determine whether either security tag is within said interrogation zone.

15. The security system of claim 14, wherein said reader system is configured to send an alarm signal if either security tag is within said interrogation zone.

16. The security system of claim 15, wherein said security system further comprises an alarm system to connect to said reader system, said alarm system to receive said alarm signal and provide an alarm in response to said alarm signal.

17. The security system of claim 14, wherein said second security tag is a Radio Frequency Identification (RFID) tag, said RFID tag further comprising:
an identification module to provide an identifier for said second security tag; and
a transmitter to send a signal with said identifier to said transceiver.

18. The security system of claim 14, wherein said first security tag is a radio frequency tag.

19. The security system of claim 14, further comprising a deactivation module to deactivate said first and second security tags.

20. A security system, comprising:
at least one antenna;
a transceiver to connect to said antenna and establish an interrogation zone; and

a reader system to connect to said transceiver and configured to detect different
5 security tags within said interrogation zone.

21. The security system of claim 20, wherein one of said security tags is a Radio
Frequency Identification (RFID) security tag, and one of said security tags is a Radio
Frequency (RF) security tag.

22. The security system of claim 20, wherein said reader system comprises:
a filter to filter out said first signal from said third signal;
a detector to determine if said second signal is present in said filtered signal;
a decoder module to decode said unique identifier from said fourth signal; and
5 an event module to generate an event signal in response to a signal from said detector,
or said decoder module.

23. The security system of claim 20, further comprising an alarm system to receive said
event signal and to activate an alarm in response to said event signal.

24. The security system of claim 22, further comprising an inventory control system to
receive said event signal and store information associated with said unique identifier.

25. The security system of claim 22, further comprising a deactivation module to
deactivate either said first or second security tags.

26. An article comprising:

a storage medium;

said storage medium including stored instructions that, when executed by a processor, result in detecting security tags by establishing an interrogation zone using at least two
5 signals operating at different frequencies, monitoring said interrogation zone to detect a plurality of security tags, with each security tag responsive to at least one of said signals, determining whether to generate an alarm if a security tag is detected, and generating said alarm in accordance with said determination.

27. The article of claim 26, wherein the stored instructions, when executed by a processor, further result in said establishing by transmitting a first signal at a first frequency, and transmitting a second signal at a second frequency.

28. The article of claim 27, wherein the stored instructions, when executed by a processor, further result in said monitoring by receiving a third signal at a third frequency from a first security tag in response to said first and second signals, wherein said third signal is a combination of said first and second signals.

29. The article of claim 28, wherein the stored instructions, when executed by a processor, further result in said determining by filtering out said first signal from said third signal, determining whether said second signal remains after said filtering, and sending an alarm signal if said second signal remains after said filtering.

30. The article of claim 29, wherein the stored instructions, when executed by a processor, further result in said generating by receiving said alarm signal, and triggering said alarm in response to said alarm signal.

31. The article of claim 27, wherein the stored instructions, when executed by a processor, further result in said monitoring by receiving a fourth signal from a second security tag in response to said second signal, said fourth signal representing security tag information stored by said second security tag.

32. The article of claim 31, wherein the stored instructions, when executed by a processor, further result in said determining by decoding said security tag information from said fourth signal, said security tag information comprising an identifier for said second security tag, comparing said identifier to a list of valid identifiers, determining whether said
5 identifier is valid based on said comparison, and sending an alarm signal if said identifier is not valid.

33. The article of claim 32, wherein the stored instructions, when executed by a processor, further result in said generating by receiving said alarm signal, and triggering said
10 alarm in response to said alarm signal.